

## **GlucoQuench™**

### **Hormone Specific™ Formulation**

### **DESCRIPTION**

GlucoQuench™ is a Hormone Specific™ Formulation containing botanical ingredients, adaptogens, and phytotherapeutic extracts to help maintain the Glucose-Insulin-System (GIS), promote healthy glucose metabolism, and support hormone function.†

Each Hormone Specific™ Formulation provided by Douglas Laboratories® and formulated by Dr. Joseph J Collins is created to support the optimal function of specific hormones through the use of hormone specific adaptogens, hormone specific agonists and hormone specific functional mimetics.†

### **FUNCTIONS**

The beta cells of the pancreas will produce the hormone insulin to transport glucose into the cells of the body and create energy. These cells can quickly adjust to spikes in blood glucose by secreting some of their stored insulin while simultaneously creating more. Cells may develop a resistance to insulin which has the potential to elevate blood glucose levels leading to vascular, kidney and vision damage, cardiovascular complications and delayed wound healing.† C-peptide is a hormone secreted into the bloodstream in equimolar quantities to insulin and are a clinical indication of beta cell mass.

*Lagerstroemia speciosa* (banaba), extracts have been used for many years in traditional medicine. The hypoglycemic effects of banaba have been attributed to both corosolic acid as well as ellagitannins. Studies have been conducted in various animal models, animal studies and in vitro systems using water soluble banaba leaf extracts, corosolic acid-standardized extracts, and purified corosolic acid and ellagitannins. Pure corosolic acid has been reported to decrease blood sugar levels within 60 mins in human subjects.† The beneficial effects of banaba and corosolic acid with respect to various aspects of glucose and lipid metabolism appear to involve multiple mechanisms, including enhanced cellular uptake of glucose, and decreased gluconeogenesis and the regulation of lipid metabolism.† These effects may be mediated by PPAR, MAP K, NF- κB and other signal transduction factors.†

The *Gymnema sylvestra* plant leaves may benefit the management of type 2 diabetes because of its potential ability to increase insulin and C-peptide production. Studies done with oral administration of a high molecular weight extract induced significant increases in both circulating insulin and C-peptide, which were associated with significant reductions in fasting and post-prandial blood glucose.† Certain bioactive compounds of gymnema have been shown to have insulin receptor binding capabilities and may improve the uptake of glucose into cells of insulin resistant cells. †

*Rehmannia glutinosa* is a widely used traditional Chinese herb which contains more than 70 compounds including iridoids, saccharides, amino acid, and inorganic ions. The actions of these may improve fasting glucose levels as well as insulin levels and tolerance.† In research, studies point to the ability of rehmannia glutinosa to reduce levels of ghrelin and promote the induction of peptide YY (PYY) secretion.†

Berberine is a naturally occurring alkaloid and a primary constituent of several plants including barberry, goldenseal, and phellodendron. It has been shown to support glycolysis and promote glucose metabolism as well as lipid metabolism in vitro.† The main mechanism triggered by alkaloid compounds in berberine is the adenosine monophosphate-activated protein kinase (AMPK). In addition, berberine is known to dilate your blood vessels. In one study, those who took berberine for eight weeks had improved heart function and increased ability to exercise compared to those took a placebo.†

Cinnamon (*Cinnamom cassia*) has in vitro insulin potentiating activity, and proanthocyanidins from cinnamon prevent in vitro formation of advanced glycation end products. Several human studies have shown beneficial effects of cinnamon supplementation on circulating glucose, lipids, and/or insulin.† GlucoQuench™ contains cinnamon type-A polymers isolated from water soluble extracts of cinnamon. These extracts have shown to support insulin action via increasing glucose uptake and enhancing insulin-signaling pathway in skeletal muscle.†

*Eleutherococcus senticosus* is a widely used adaptogen that has shown to support and management blood glucose after carbohydrate intake by inhibiting glucosidase activity in the small intestine mucosa, In animal

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studies, extracts of ES upregulating glycolysis and downregulating gluconeogenesis in the liver.†  
*Panax ginseng*, *Withania somnifera* and *Rhodiola rosea* are other popular adaptogens that also support the function and structure of the Glucose-Insulin-System.†

### INDICATIONS

GlucoQuench™ is a useful dietary supplement for those individuals who wish to support healthy **blood glucose metabolism**

### FORMULA (#202298)

Dose per 2 capsules or 4 capsules

*Gymnema Sylvestre*

(leaf extract, standardized to 25% gymenecic acids) ..... 200 mg.....400 mg

*Rehmannia glutinosa* extract [root] ..... 200 mg.....400 mg

Berberine HCL (from *Berberis aristata* extract, root) ..... 125 mg 250 mg

*Eleutherococcus senticosus*

[root, standardized to 0.8% eleutherosides]..... 100 mg.....200 mg

Cinnamon bark extract (*Cinnamomum cassia*) .....62.5 mg.....125 mg

*Lagerstroemia speciosa* [banaba leaf extract]

(standardized to 18% corosolic acid) ..... 28 mg.....56 mg

**A Phytocrine™ Proprietary Blend** ..... 160 mg.....320 mg

*Panax ginseng* extract [root, standardized to 3% ginsenosides] *Withania somnifera* [Ashwagandha root and leaf extract, standardized to a minimum of 10% withanolide glycoside conjugates and 32% oligosaccharides], *Rhodiola rosea* root extract [standardized to 5% rosavins and 2% salidroside]

### SUGGESTED USE

As a dietary supplement, adults take 2 capsules each day with food or for 1 to 2 weeks or as directed by your healthcare professional. If desired, the dose may then be increased to 4 capsules each day with food for 2 to 4 months or as directed by your healthcare professional. After 2 to 4 months, dosage may be lowered back down to 2 capsules each day with food and continue on that dosage as needed or as directed by your healthcare professional.

### SIDE EFFECTS

No adverse side effects have been reported. If you are pregnant, nursing, have any health condition or taking any medication, consult your healthcare practitioner before using this product.

### STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

### REFERENCES

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**For more information on GlucoQuench visit [douglaslabs.com](http://douglaslabs.com)**

† These statements have not been evaluated by the Food and Drug Administration.  
This product is not intended to diagnose, treat, cure, or prevent any disease.